

MILITARY SPECIFICATION SHEET

ELECTRON TUBE, GAS

TYPE 5517

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the electron tube described herein shall consist of this document and the latest issue of Specification MIL-E-1.

DESCRIPTION: Rectifier, half-wave, cold cathode

See figure 1

Mounting position: Any

Weight: 0.32 ounce (9.1 grams) nominal

ABSOLUTE RATINGS:

Parameter:	epx	Epp	C <sub>z</sub>	I <sub>b</sub>	R <sub>z</sub>	I <sub>o</sub>	I surge	TA	Z <sub>p</sub>
Unit:	v	Vac	μF	ma	Ohms	mAdc	ma	°C	Ohms
Maximum:	2,800	---	---	100	---	12	300	+60	---
Minimum:	---	500	---	---	---	---	---	-50	5,000

<u>TEST CONDITIONS:</u>	---	1,200 (see note 1)	2.0 ±10%	---	90,000 ±1,000	---	---	---	---
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GENERAL:

Qualification - Required

Ⓒ denotes changes

METHOD	REQUIREMENT OR TEST	NOTES	CONDITIONS	AQL (PERCENT DEFECTIVE)	INSPECTION LEVEL OR CODE	SYMBOL	LIMITS		UNIT
							MIN	MAX	
	<u>Quality conformance inspection, part 1</u>								
1231	Peak emission by voltage drop	2	1b = 100 ma	0.65	II	etd	---	125	v
1353	Operation of rectifiers	-	Zp = 6,000 ohms(min) (see figure 3)	0.65	II	Io	12.0	---	mAdc
	<u>Quality conformance inspection, part 2</u>								
1031	Low-frequency vibration	-	No voltages applied	---	---	---	---	---	---
3347	Ionization voltage	-	See figure 2	---	---	Epp	---	400	Vac
	<u>Quality conformance inspection, part 3</u>								
---	Life test	-	Group A; Zp/Io = 12.0 mAdc (min); t = 500 hours (see figure 3)	---	---	---	---	---	---
---	Life-test end points:								
1357	Operation of rectifiers	-		---	---	Io	11.0	---	mAdc
3347	Ionization voltage	-		---	---	Epp	---	450	Vac
1231	Peak emission by voltage drop	-		---	---	etd	---	150	v

## NOTES:

1. Epp shall be measured with the transformer unloaded, using a high-impedance voltmeter.
2. With starter electrode connected to anode through a 10-megohm resistor.

## Custodians:

Army - EL  
Navy - EC  
Air Force - 85

## Review activities:

Air Force - 17, 80  
DSA - ES

## User activities:

Army - MU  
Navy - AS, OS, MC, CG, SH  
Air Force - 11

## Preparing activity:

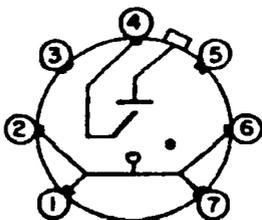
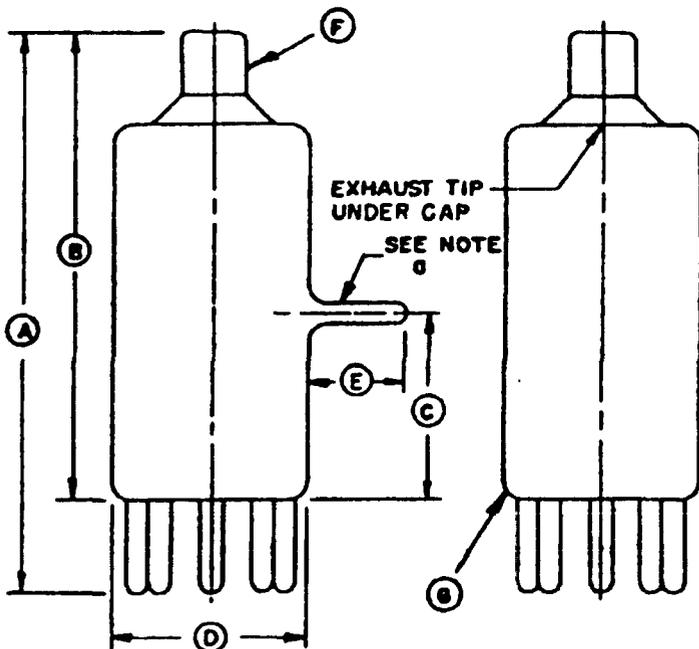
Navy - EC

## Agent:

DSA - ES

(Project 5960-2931)

## ALTERNATE OUTLINES



PIN CONNECTION SCHEMATIC

Dimensions in inches with metric equivalents (mm) in parentheses		
Ltr	Minimum	Maximum
Quality conformance inspection, part 2		
A		2.250 (57.15)
B	1.780 (45.21)	1.870 (50.04)
C	.750 (19.05)	
D		.750 (19.05)
E		.375 (9.53)
Quality conformance inspection, part 3 (see note b)		
F	Cap: C1-3 (EIA)	
G	Base: E7-1 and envelope: 5-2 (T-5 1/2) (EIA)	

## NOTES:

- a. Exhaust tip will lie in sector between pins 1 and 7.  
 b. These dimensions shall be checked annually with the following sampling plan:

$n_1 = 4$        $c_1 = 0$       where  $c_2$  represents the total allowable failures  
 $n_2 = 4$        $c_2 = 1$ ;      for the first and second samples combined.

In case of failure after double sampling, the failing dimension(s) shall become quality conformance inspection (QCI), part 2, for three successful consecutive submissions, at which time the test may revert to the QCI, part 3 basis.

FIGURE 1. Outline drawing of electron tube type 5517.

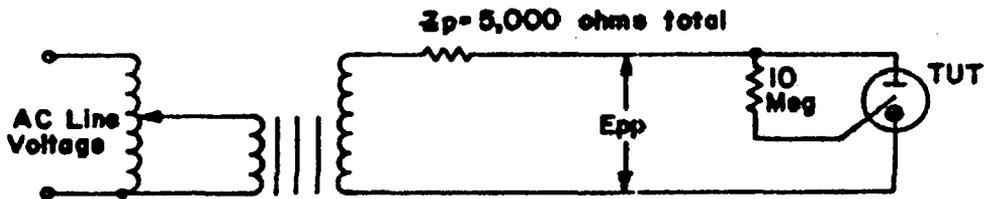
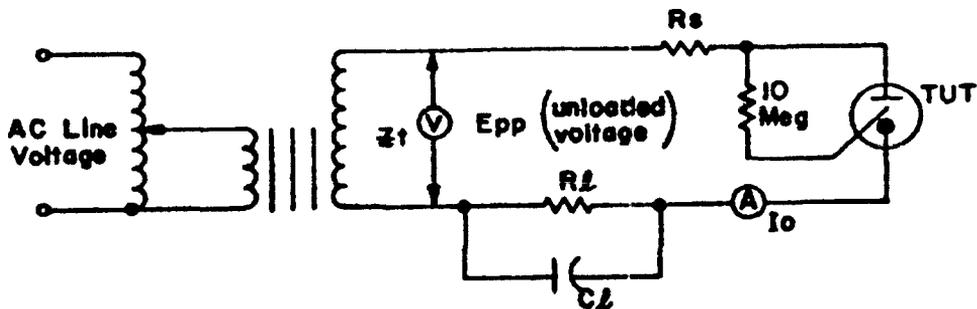


FIGURE 2. Ionization voltage test circuit.



$Z_t$  = TOTAL IMPEDANCE LOOKING TOWARD  
LINE VOLTAGE.

$Z_p$  =  $Z_t + R_s$ .

FIGURE 3. Life-test and operation of rectifiers test circuit.